

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for January, 1896, is based on reports from 2,737 stations occupied by regular and voluntary observers, classified as follows: 149 from Weather Bureau stations; 35 from U. S. Army post surgeons; 2,395 from voluntary observers; 32 from Canadian stations; 96 received through the Southern Pacific Railway Company; 30 from U. S. Life-Saving stations; international simultaneous observations are received from a few stations and used together with trustworthy newspaper extracts and special reports.

The WEATHER REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by Mr. A. J. Henry, Chief of the Division of Records and Meteorological Data. Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada, and of Dr. Mariano Bárcena, Director of the Central Meteorological Observatory of Mexico.

CLIMATOLOGY OF THE MONTH.

GENERAL CHARACTERISTICS.

During the current month the average pressure showed a notable deficit on the coasts of Oregon and Washington. The average temperature was generally above the normal. Precipitation was below the normal, except on the Pacific coast.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers, not reduced to standard gravity, and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart IV. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The mean pressures during the current month were high in the Middle and South Atlantic States, and also in the Dakotas and Saskatchewan. The highest were: Prince Albert and Bismarck, 30.25; Salt Lake City, 30.24; Winnipeg, 30.23; Battleford, St. Vincent, Moorhead, Idaho Falls, Cincinnati, Northfield, Washington, Harrisburg, Parkersburg, Lynchburg, Raleigh, Charleston, Atlanta, Knoxville, and Chattanooga, 30.22.

The mean pressures were low in Washington and Newfoundland. The lowest were: Tatoosh Island, 29.81; Esquimaux, 29.84; St. Johns, N. F., 29.85; Astoria, 29.88.

As compared with the normal for January the mean pressure was in excess in New England, Quebec, and Ontario, but deficient in Washington and Oregon. The greatest excesses were: Father Point and Northfield, 0.15; Quebec, 0.13; Rockcliffe, Montreal, Halifax, and Albany, 0.12; Eastport and Sault Ste. Marie, 0.11; Boston, Kingston, and Harrisburg, 0.10.

The greatest deficits were: Tatoosh Island, 0.21; Roseburg, 0.19; Baker City and Portland, Oreg., 0.15; Walla Walla, 0.14; Port Angeles, 0.13; Eureka, 0.12.

As compared with the preceding month of December the pressures reduced to sea level show a decided rise in the interior

valley of the continent, but a fall on the Pacific Coast. The greatest rises were: Battleford, Prince Albert, and Swift Current, 0.35; Minnedosa and Winnipeg, 0.34; Edmonton, 0.33; Qu'Appelle and St. Vincent, 0.31. The greatest falls were: Eureka, 0.24; Roseburg, 0.21; Red Bluff, 0.20; Winnemucca and Sacramento, 0.17; San Francisco and Portland, Oreg., 0.16; Astoria, Carson City, and Fresno, 0.15.

AREAS OF HIGH AND LOW PRESSURE.

By Prof. H. A. HAZEN.

During January there have been eleven areas of high pressure and ten of low pressure, mapped on Charts I and II. One of the high areas, No. IV, was central in the middle Plateau Region for 5 days, but had no motion, and hence does not enter the calculations in the table, as also low area VIII, which was noted for only twenty-four hours. The accompanying table gives some of the general points regarding these highs and lows, and the following is a brief description of these conditions:

HIGH AREAS.

I.—First noted in the west Gulf a. m. of 1st. Its motion was eastward, reaching and disappearing in the Atlantic a. m. of 3d.

II.—First noted to the north of Montana a. m. of 1st. It rapidly developed in forty-eight hours, a pressure of 31.20 being reported from Calgary a. m. of 3d. Its motion was along the northern border, reaching the mouth of the St. Lawrence p. m. of 10th. The severest cold wave of the month accompanied this high, and a special cold wave bulletin, No. 1, was issued. A fall in temperature of 46° in twenty-four hours occurred at Havre p. m. of 1st, and at Bismarck p. m. of 2d.

III.—On the p. m. of 3d high area II extended in a long ridge of high pressure from Manitoba to the west Gulf, and III was first noted as a separate high in the south of this ridge. Its motion was south, and disappeared in the central Gulf p. m. of 6th.